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ABSTRACT

The implications of imperfectly predictable demographic changes on public schools in the 1980's provide the focus of this paper. Major changes that are relevant to the educational sector are briefly described raising the questions whether these changes are temporary aberrations or indicative of future trends. The effects of changes in enrollment on the costs and quality of education are discussed. Included is a discussion of the effect of changing family composition--fewer households with children, fewer children of school age in the total population--on electoral support for expenditures on education versus expenditures on other public services or tax reductions. The reciprocal relationship between school finance and organization and central-city decline is discussed, particularly the middle-class or "White Flight" controversy. At issue is whether changes in the pattern of finance or organization can significantly affect the decline in the proportion of white, middle-class families that choose to live in the central city. Finally, several policy recommendations for dealing with the consequences and causes of decline are suggested. (Author/JMF)

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ORGANIZATION: THEIR INTERRELATIONSHIPS

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DEMOGRAPHIC CHANGES AND SCHOOL FINANCE AND ORGANIZATION:
THEIR INTERRELATIONSHIPS

Martin T. Katzman

There has been an increasing awareness of demographic change in all segments of American society. While change has always been with us, there have been major shifts in its apparent direction that have focused our attention upon demographics. In a policy-making environment in which the changes are always in the same direction--i.e. growth--change itself may not call for high-level decision-making capacity, for more of the same can often suffice. When the direction of change alters, say as growth is replaced by decline, two linked questions arise. First, can policy-makers and administrators simply replace "more of the same" with "less of the same," or, as William Alonso (1973) suggests, are growth and decline asymmetric? Second, if it becomes apparent that demographic change will continue to occur over the foreseeable horizon, does this imply that extraordinary forecasting, policy-making, planning, analysis, and decision-making capacities are required, or can muddling through suffice?

Policy-makers and administrators in the educational sector have considerable lead time in dealing with certain aspects of demographic change. The number of ten-year-olds in the aggregate requiring classroom space in 1986 is predictable from the number of one-year-olds alive in 1977. In particular states and school districts, prediction must take into account expected trends in interregional, urban-rural, city-state, and intra-metropolitan population distribution. What these imperfectly predictable demographic changes mean for public schooling in the next decade is the focus of this essay.

The exposition is divided into four sections. First is a brief description of the major demographic changes that are relevant to the educational sector. At issue are the magnitude and likely persistence of changes apparent in the 1970s; i.e., are they temporary aberrations, the harbinger of future trends, or is it impossible to say? The second section discusses the effects of changes in enrollment on the costs and quality of education. Third is a discussion of the effect of changing family composition--fewer households with children, fewer children of school age in the total population--on electoral support for expenditures on education versus expenditures on other public services or even tax reductions. The fourth section focuses upon the reciprocal relationship between school finance and organization and central-city decline; i.e. the middle-class or white-flight controversy. At issue is whether changes in the pattern of finance or organization can significantly affect the decline in the proportion of white, middle-class families that choose to live in the central city. Finally, several policy recommendations for dealing with the consequences and causes of decline are suggested.

1. AN OVERVIEW OF DEMOGRAPHIC CHANGES IN THE 1970s

The major demographic trends discernible in the United States of the late 1970s can be usefully divided into the macro-societal or shifts in aggregate population structure, and the spatial incidence of these changes.

The macro-demographic changes of greatest relevance to the education sector are the decline in fertility, the concomitant shift in the composition of families, and the consequent aging of the population. Changing

fertility has obvious implications for the number of children requiring educational resources, but the other changes have more subtle and not easily predictable implications. An increasing proportion of households in the pre- and post-child-rearing years may translate into lower electoral support for public educational expenditures; however, there may be offsetting housing tenure choices that result in increased support for such expenditures, as discussed more fully in Section III.

These macro-demographic changes are not spatially uniform, and there are four major locational changes of relevance to the educational sector: (1) an interregional distribution of population and employment from the northeastern Industrial Belt to the southern and western "Sunbelt"; (2) a turnaround in the chronic population decline of selected rural areas; (3) an absolute decline in the population of entire metropolitan areas, particularly in the Northeast; (4) an absolute and relative decline of central cities in most metropolitan areas.

What is the likely persistence of these trends? While one can point to increasing levels of education and female labor force participation as an underlying factor conducive to declining fertility, these factors were operative in the late 1940s and early 1950s when fertility increased.

While higher levels of female economic achievement can increase the opportunity cost of having children, rising education and income may increase the taste for children as a "consumer good" as well as the ability to pay for them. Such speculation aside, it is clear that for purposes of estimating educational demands, there is considerable inertia built into the age structure. The declining fertility in the mid-1970s, an extension of trends of the early 1960s, heralds continued declines of

elementary enrollments through the early 1980s and of secondary enrollments through the late 1980s. These grade-specific enrollment declines will occur regardless of future trends in fertility (Davis and Lewis, 1976, Table 3; Morrison, 1976).

The interregional redistribution of population and employment away from the Industrial Belt has roots deep in the nineteenth century, although the rapid growth of some southern and western states is a reversal of recent trends (Perloff et al, 1960). While the rapid growth of the Sunbelt states is perceived to be especially rapid in the 1970s, this is so only relative to the stagnation and decline of the Industrial Belt. In fact, the rate of growth of most Sunbelt states and their metropolitan areas is no faster, and in some cases slower, than in the 1960s. If the trends toward decreasing fertility and births persist, then population and employment cannot increase in some region without causing a loss somewhere else (Jusenius and Ledebur, 1976).

The apparent stabilization of the urban-rural balance and turnaround in the decline of selected rural areas is somewhat harder to interpret and project. The secular trend of net immigration to metropolitan areas in the aggregate has given way to net emigration in the early 1970s. The numbers are small (1.6 million persons over the period 1970-1973) and to some extent reflect exurban settlement at the metropolitan fringes, which creates the statistical artifact of metropolitan-to-rural migration. This is not the whole picture, however, for in certain amenity-rich areas, such as northern New England or the Ozarks, and in potential coal-mining areas, such as Wyoming, small towns are indeed enjoying a reversal of the secular trend of absolute population decline (Hansen, 1973). This

phenomenon suggests that the metropolitan-to-rural migration in the recessionary 1970s may be something different from a similar movement observed during the Depression, when farm areas fared relatively well.

While relative decline in central-city populations has been occurring for over a century and absolute decline occurred in many of the older, northeastern cities since 1950, the phenomenon of absolute decline in central-city populations has spread to some of the growing cities of the Sunbelt in the 1970s, such as Atlanta. Little likelihood of a reversal, particularly for middle-class families with children, is likely if current patterns of organization and finance are maintained, as suggested in Section IV.

The absolute decline in metropolitan population is unprecedented. Perhaps these trends are a premonition of Briar Berry's (1970) scenario for a society in which telecommunications make the traditional metropolitan area obsolete and where commuting fields can exceed one hundred miles. For the suburbs of a declining metropolitan area, this may require a radical shift in the orientation from providing educational services to children to providing recreation and security services for the elderly.

II. ENROLLMENT CHANGES, COSTS, AND QUALITY OF SCHOOLING

This section attempts to discern the implications of decline in elementary and secondary school enrollments in terms of costs and quality.

A. The Cost Ratchet

Abstracting from inflation, the costs of schooling have continued to increase in the post-War period. There are three potential components of this increase: (1) the quantity of schooling, in terms of the number

of student years increases; (2) the quality of schooling in terms of the amount children learn increases; (3) the price of a given quality-quantity mix increases relative to the price of other goods and services.

Nationally, the quantity of schooling, as measured by the number of elementary student years, peaked in 1970, and thus increases in cost after that year cannot be explained in those terms. Quality is much harder to measure, and indeed there is evidence from standardized test scores that, as indicated by performance, quality has been stable or declining since the early 1960s. Such stagnation is concomitant with massive increases in physical inputs, like teacher-pupil ratios, and special services like transportation (for integration) and bilingual classes.

Bradford, Malt, and Oates (1969) have shown that increases in public school expenditures in the period, 1948-1966, are largely a result of increases in input costs, notably teacher salaries. The same is true for other public services, such as hospital care and police protection. Rising salaries themselves do not result in increased costs if productivity increases proportionally, as is generally true in the manufacturing sector. The major factor accounting for increases in relative costs of public services--and many private services, such as hair cuts and legitimate theater--is the differential productivity gain between the goods and services sectors (Fuchs, 1968). Wage increases in the labor market as a whole are generally paced by increases in manufacturing productivity. The greater the degree to which productivity in a particular service sector falls short of the norm in manufacturing, the more do costs increase (Baumol, 1967).

In addition to these market forces which tend to raise the costs of schooling, there are significant changes in market structure, particularly

in rising unionization and in compulsory arbitration laws, which have been enacted in several states. Traditionally, workers in white-collar occupations have earned about 5-10 percent less than those with similar age and educational characteristics, but employed in manufacturing. Part of the difference is attributed to working conditions, particularly the smaller and more congenial working environment in the services sector. But approximately one-half of the wage differential can be attributed to unionization. Among teachers, unionization appears to increase average wages by about five percent, and wages for highly experienced teachers by somewhat more (Jones, 1973; Holmes, 1976). While these results suggest that enrollment declines and a consequent aging of the teaching force may raise costs more in unionized school districts, increased unionization itself does not appear as a major contributor to educational cost increases.

B. The Asymmetry of Growth and Decline

The effects of growth and decline on schooling costs appear to be asymmetric. Under conditions of fully anticipated growth, school construction and teacher hiring can be paced to the increase in enrollments. Because there are no major economies or diseconomies of scale in schooling within a wide range, costs per student in a growing system can remain fairly stable. Where growth has occurred faster than anticipated, costs per pupil can fall; as school construction lags, double sessions permit more intensive use of existing buildings. Whether the quality of schooling (in terms of learning) deteriorates under these conditions has never been carefully studied; however, such a response to crowding is generally viewed as a stop-gap measure by most communities. Eventually, construction expands classroom capacity.

The conditions of decline are markedly different from the conditions of growth in four major respects. First, to the extent that capital expenditures were financed by debt rather than from current revenues, there are debt service costs of older schools that cannot be reduced *pari passu* with enrollment declines. In the private sector, similar decline in demand is often followed by selling off under-utilized capital facilities and then liquidating the debt. There is a major difference between the public and private sectors, which highlights a second factor. The decision to close a school involves more actors and more considerations than the closing of a supermarket. Whereas the local clientele may suffer under both conditions, the clientele has no vote in the decision to close a supermarket, while they do have a vote on closing schools. To the extent that the losses to closing a school are relatively great for a small number of people (those whose children formerly attended the closed school and perhaps those whose children must accommodate the influx), the gains to school closing may be highly diffuse, although greater in magnitude. This suggests that the public sector may be slower to respond to decline than the private sector.

Third, to the extent that pension plans for educational employees have not been fully funded in the past (i.e., pensions are disbursed on a pay-as-you-go basis from current revenues), past levels of enrollment determine a large portion of current schooling costs. Unlike the situation of sunk capital, which can be sold off, there is no way for a school system to escape the burden of these pension costs (Fitzgerald, 1977).

Fourth, the institution of tenure prohibits firing teachers after a certain number of years' service. In a declining school system, hiring

may cease, but the contraction of the teaching force is limited by the rate of retirement and attrition. To some extent the rate of retirement and attrition may be accelerated by freezing the salary schedules; however, this does not freeze payrolls. Because of the stepped nature of most salary schedules, which grant increments for each year of service up to a given point, say ten years, payrolls have an inertia of their own. As opposed to an expanding school system, where large numbers of new teachers are hired at a low rate of pay, an aging system has higher costs per teacher and hence per pupil, even if the teacher-pupil ratios are identical.

C. Empirical Evidence

It is difficult to assess the practical relevance of the above theoretical arguments. Several bodies of studies attempt to relate costs per pupil to levels or rates of growth in school enrollment. These studies are somewhat difficult to interpret because the quality of schooling is rarely held constant. For example, a large number of studies purporting to test for economies of scale relate costs to community characteristics, but rarely to how much is learned (Katzman, 1971). These limitations aside, none of these studies identify major economies or diseconomies of school systems, except for the very largest, which are more expensive.

Sternlieb (1974) reviews several studies of small towns that relate costs to rates of growth of enrollment. These studies as well as his own analysis of New Jersey communities identify no consistent effect of growth or decline on costs of schooling per capita. Taking a somewhat different angle, Muller (1976) examines the costs of providing public services in growing and declining large cities. As suggested by the

arguments above, growing cities tended to have lower costs per capita than the declining cities. There is some difficulty, however, in interpreting these results: does population decline cause high service costs, or do high service costs result in decline?

A study of migration among 75 SMSAs by Liu (1977) indicates that almost no inferences can be drawn from Muller's data. He finds that the rate of state-local taxation in a metropolitan area does not affect net migration, the major contributor to differential growth. Conversely, the rate of net migration has no effect on the level of local taxation.

D. Implications of Growth and Decline

Costs

Because of the relative stagnation of productivity in the education sector, which can be projected into the near future, the costs of providing a given bundle of educational services to a child will increase in the foreseeable future. The nature of the educational bundle will tend to change in the more costly direction, as busing becomes more widespread, and as more and more "special needs" groups are defined, from linguistic minorities to the physically handicapped. To the extent that the Federal government assumes many of these costs, there may be no differential effect among regions or between city and suburb. To the extent that these costs are borne locally, as are special needs programs in Massachusetts, the programs can hit the central cities hardest. Growth and decline in enrollments apparently has less of an effect on per-student costs than these other factors, although the evidence is somewhat tenuous.

Organizational problems

Perhaps equally serious to the problem of holding the line on total costs as enrollments fall is the problem of faculty morale. In a growing organization, the possibilities for upward mobility are relatively high as openings at the top are filled through the "internal labor market." In a stagnant or declining organization, openings at the top are few, and organizational loyalty cannot be rewarded by promotion. Energetic and ambitious teachers may find the potential for advancement greater outside the profession, which may increasingly reward patience rather than initiative.

We have had little experience with such declining organizations in the public sector, although whole industries in the private sector have undergone either aggregate or local decline, such as mining, textiles. Can the lessons of these industries prove instructive to educational planners and administrators in coping with the labor relations problem? Of ultimate concern is whether the potential morale problem will have deleterious effects on the quality of teaching and hence on student morale. These issues, as much as the cost issue, will tax the attention of educators in the next decade.

The racial/class problem

The geographical dimension of decline raises another problem. The rapid decline in white enrollment in central-city schools, due more to suburbanization than to birth rate declines (Long, 1975; Katzman, 1977), has resulted in central-city school systems that are increasingly black and lower class. To the extent that the social class of the student body has a greater impact on performance than teaching resources, this

continuing process of social class and racial segregation cannot be viewed with equanimity.

It is of course not clear that there was much social class or ethnic integration prior to the white enrollment declines of the 1970s, which coincided with the busing controversy in the Northern cities. Busing, or more properly desegregation actions, took place in the context of already highly segregated schooling patterns that followed from residential patterns (Farley and Taueber, 1973). Whether busing itself contributed to resegregation is considered in Section IV below.

White flight and enrollment decline may not have totally pernicious consequences for poor and minority students. Murnane (1977) has found that in one large northeastern city, the average experience of teachers in minority schools is increasing. The explanation is that freedom of choice in teaching assignments is a privilege associated with seniority in most school systems. In growing or stable systems, lower-class and minority children are usually taught by inexperienced teachers with little choice (cf. Katzman, 1971, chap. 5). As enrollment declines and the teaching force ages, there are fewer escape valves for the more experienced teachers. To the extent that teaching quality improves with experience, as the evidence indicates (Katzman, 1971, chap. 2), the quality of teaching improves for lower-class and minority students.

III. THE EFFECT OF DEMOGRAPHIC CHANGE ON SCHOOL FINANCIAL SUPPORT

The changing composition of family types and age groups in American society may have a great impact, not yet totally discernible, on support for public schooling vis-a-vis other forms of public expenditure. The decline in fertility, the protracted period of childlessness among the

married, and the general aging of the population impact on both the supply and demand for educational funds. On the demand side, the obvious implication is that the number of children requiring elementary and secondary education is declining as a proportion of the population. The implications on the supply side, i.e., on electoral support for public education, are much more difficult to fathom.

A. Theory

One would expect that families with school-age children would derive much more benefit from a well-funded school system than households without children. This does not necessarily imply that a relative increase in the share of households without children will result in a reduction in electoral support for public education on a per-pupil basis, because the tax rate to raise a given level of spending per pupil necessarily falls as well.

It is useful to distinguish between households whose members have not yet borne children, primarily comprised of the unmarried and married young adults, and households past the child-bearing age. Young, childless households are generally highly mobile both vertically and horizontally (geographically). As a consequence, they tend to rent rather than to own housing and as a concomitant tend to have relatively low voting turnout. Older couples, with or without children, have a high propensity to own their own homes as well as to vote.

Housing tenure has an enormous impact on the support for public expenditures, as indicated both by results of referenda and actual community expenditures. Apparently because they perceived the property tax to be borne largely by the landlord, renters are considerably more likely

to favor local expenditures for education than homeowners (Wilson and Banfield, 1964; Kee, 1965; Davis and Haines, 1966; Peterson, 1976; Bloom, 1976). The increasing share of younger, childless households then has offsetting effects on electoral support for public schooling: indifference or hostility as a result of receiving no direct benefit; support as a result of perceiving no direct cost. The increasing share of older, childless households, however, would appear to lessen support for public education both on grounds of lack of direct benefit and incidence of the costs.

If all voters in a metropolitan area were collectively to vote on school expenditures, then the changing age composition and concomitant tenure composition may or may not result in a decline in support per school child. The nature of school finance and organization in most American metropolitan areas adds a dimension of complexity here. The differing interests of each age group create an incentive for sorting out and residential segregation. Young households may locate with little attention given to the fiscal package; families with children may seek education-oriented suburbs, just as they do today; and older families may seek communities that spend little per pupil, but devote taxes to public services of greater interest to their own age cohort.

Support per pupil in the long run does not necessarily diminish, so long as financing is largely local. To the extent that broad-based, statewide taxes are relied upon, the macro-demographic changes may result in reduced support; younger households are probably aware of the impact of school spending on their own sales and income tax payments. These results are not inevitable, but somewhat manipulable by tax policy. For

example, property-tax circuit breakers for citizens over 65 may reduce antipathy to educational expenditures.

B. The Evidence

It is a well-established fact that urban families sort themselves out among neighborhoods on the dimension of life-cycle particularly whether or not they have children (Shevsky and Williams, 1949; Hoover and Vernon, 1960). There are a large number of external benefits of such self-segregation, but common preference patterns toward supporting public schooling may be one. It is not clear how important this factor is quantitatively, however. For example, if school support patterns were determined on a metropolitan basis, as in Nashville or Miami, as opposed to a more decentralized basis, as in metropolitan Boston with its 73 school districts, the degree of life-cycle segregation might be somewhat less (Hamilton et al., 1975).

Surprisingly, there is little definitive evidence that the age composition of a community affects its support for public schooling. Studies which measure the effect of percent of school-age children in a community's population, percent of families with children, or percent of population over 65 rarely produce significant or easily interpretable results. For example, in a cross-sectional analysis of states, McMahon (1970) finds that for every one percent increase in the share of school age population the share of state income spent on schooling increases 0.15 percent; time series produce comparable results. In other words, support per pupil appears to fall as the share of students in the population rises. One would have expected on the basis of preferences--i.e. share of families with children--that support per student would be greater in states with a

higher proportion of children, but that in such states the tax price of changing expenditures per pupil would be higher, thereby offsetting the effect of preferences. In a study of local support for schooling, Bloom, Brown, and Jackson (1976) find that the change in the number of children per household over a ten-year period results in a proportional change in school expenditures per household. This implies that school support per child is similar in communities with widely varying shares of school children, holding other factors constant. Attitudinal surveys by Bloom (1976), however, produce results that contradict the observed patterns; i.e., he finds that the elderly are much less willing to support public school expenditures than the younger, child-bearing households.

Needless to say more research is required into patterns of preference for public expenditures by different life-cycle groups. Perhaps as a result of their tremendous affinity for cardinal numbers, like income, economists have been notably lax in paying attention to the effect of nominal variables like family types. It is becoming apparent, for example, that the elderly, despite their greater likelihood of homeownership, are supporters of higher local public expenditures than younger groups; however, they are more interested in police protection and recreation than in education (Bergstrom and Goodman, 1973). Nevertheless elements of public-regardingness clearly enter voting decisions and preferences are not polarized along life cycle. The elderly often provide some electoral support for educational expenditures, from which they derive no conceivable direct benefits, while all child-bearing families are not invariably staunch supporters of high expenditures (Barzel, 1973).

IV. SCHOOL FINANCE AND ORGANIZATION AND SPATIAL CHANGES

Most of the spatial changes in the distribution of the American population, as has been noted, are deeply rooted. Mainly as a result of Federal efforts at reducing segregation in the public schools, there is wide concern that public action is causing or at least accelerating decline, particularly in big cities. The image of 'white flight' or, more broadly, 'middle-class flight' from largely lower-class central-city schools raises the more general issue of the degree to which the quality of public services and taxes affects residential location.

There are four major bodies of literature which shed light on the issue. Each body tends to have been generated by a different mix of social science specialists, using different methodologies; however, the results are not strikingly different. While this literature is reviewed in greater detail elsewhere, the general tone can be established swiftly.

A. School Enrollment Studies

The best-known studies focus upon year-to-year rates of change of white enrollment in school systems under varying conditions of average racial composition, degree of interracial contact, city size, and region, among others. Undertaken by sociologists and a few political scientists, these studies generally rely upon data from the Office of Civil Rights of the Federal Department of Health, Education, and Welfare, which has undertaken a massive racial census annually since 1967.

As expected from the macro-demographic changes as well as continued suburbanization, most central-city school systems have lost white students under all circumstances since 1967, with the exception of some rapidly growing, countywide systems in the Sunbelt. The underlying

causes of suburbanization and central-city decline are left unexplained, for these studies take a black-box view of metropolitan growth and development. In focusing on the effects of school integration, these studies implicitly assume that the wheels within the box continue to grind as before and that there are no important inter-city differences in the workings of urban spatial structure that are correlated with the patterns of school segregation. While these assumptions may not be strictly correct--the early 1970s may have been especially poor for central-city economies and the growing cities of the Southeast tend to have different patterns of school organization from declining cities of the Northeast--such an assumption may be impervious to what Frederick Mosteller calls "slam-bang" effects. The differential ups and downs of urban economies, in time and space, may be swamped by school desegregation policy in terms of the effects on residential location. If there are minor effects of school integration, which are marginal, but not slam-bang, then they might be confounded by other factors.

Despite these caveats, the results are markedly consistent from one study to another: First, the rate of white decline is greater in cities with (a) higher shares of black enrollment, (b) larger population, (c) greater degree of racial desegregation, and (d) greater difference in racial composition of city vs. suburban schools. In the limiting case where school districts embrace the entire metropolitan area and integration is applied uniformly within the district, white enrollment declines are especially small. Second, the effect of desegregation on white decline is greater in cities which are (a) larger and (b) comprised of higher percentages of blacks. When these characteristics are taken into

account, there seem to be no substantial North-South differences or effects of auspices of integration (Federal Courts, HEW) or the instruments of integration (redistricting, busing).

Studies of this type have limited policy implications. While the adoption of metropolitan integration plans would have some effect in reducing the suburbanization of the school population, this would undoubtedly abridge local rights to finance and administer school systems as they choose. Other policy options, such as the creation of magnet schools, cannot be evaluated by these aggregate studies since they pay no attention to characteristics of schools other than their racial composition.

8. Housing Price Index Studies

Long interested in the determinants of housing prices, economists have recently turned their attention to neighborhood characteristics, including local public services. Underlying these studies is the notion that where neighborhood characteristics are highly desired and in short supply, housing prices will be bid up compared to an identical house with different neighborhood characteristics. If school taxes rise, if the social class of the peers declines, or if the student body incorporates a larger share of minorities, relative to other neighborhoods, then housing prices decline. The amount of decline indicates the amount of money families are willing to pay for such neighborhood characteristics as clean air, low taxes, or white peers.

There are several difficulties with such studies. First, because favorable and unfavorable neighborhood attributes tend to be distributed together as a bundle--neighborhoods with clean air tend also to have good schools and low crime rates--it is hard to identify unambiguously

the effects of characteristics of public services, such as racial composition of schools or tax rates. Second, the effects of demand may not be reflected in price if supply is fairly elastic. For example, if districts teaching the new math are in short supply, housing prices will be rapidly bid up; however, in the long run, other school districts will emulate the desired curriculum or the housing supply in the desired district will increase, thereby lowering the price premium associated with the new math. Where the desired neighborhood attribute is inherently in fixed supply--such as middle-class schoolmates--then housing prices will continue to reflect this attribute in the long run. Third, there is a floor to the level of prices in neighborhoods with undesirable characteristics. For example, if school desegregation results in decreased demand by white families with children, housing prices in the affected district will fall; however, families without children may view these houses as a bargain, thereby abating the price decline.

These caveats aside, the few housing price index studies which were able to separate school expenditures, school taxes, and school racial composition from other neighborhood characteristics have similar results, which complement those of the school enrollment studies. Holding other things constant, housing prices are higher in those school districts with high school expenditures, low school taxes, and low proportions of blacks, to some extent an indication of lower-class students. Moreover, the impact of school expenditures or taxes can be weighed against that of racial composition. For example, in metropolitan Boston, a one percent increase in the share of blacks living in a neighborhood is offset by a five point reduction in the property tax rate (Schnare, 1974). While the

precise numbers are not important, the point is that local variations in attributes of schooling indeed affect the demand for housing, and that many of the recent changes in school finance and organization operate to the relative detriment of the middle class in the central city: especially racial integration, but also the transition from under-assessment in favor of the high income groups to 100 percent assessment.

C. Segregation of Population Stocks

A third group of studies looks at the spatial distribution of income groups (city vs. suburb; among suburban neighborhoods) with respect to attributes of school finance and organization. In a comparison of 87 of the largest metropolitan areas in 1960, Bradford and Kelejian (1973) found that the higher was the share of the middle class living in the central city and lower was the share of low-income families living there, the lesser the degree of income redistribution undertaken by city government.

Clotfelter's elaborate simulation model showed that city-suburban differences in school integration also explained the distribution of the white population. In an average, segregated metropolitan area with stable black and white populations, job decentralization results in a three percent decline in families with children over a five-year period in the central city. Desegregation in the city would raise the rate of white decline to ten percent, while black population growth of two percent per annum raises the rate of white decline to eleven. This is not the whole story, for white families without children are unaffected by either change.

Several other studies relate the likelihood of families with particular characteristics of living in neighborhoods with given characteristics,

such as school expenditures and racial composition. These studies are difficult to interpret for two main reasons. First, families in situ may have made their neighborhood choices five, ten, or even twenty years ago when neighborhood character was different, which attenuates any relationship. Second, the direction of causality is hard to interpret: do high-spending, largely white districts attract the white middle classes or are they made by the white middle class? As a result of these ambiguities, it is not surprising that such studies are generally inconclusive and contradictory among themselves in identifying the effect of school characteristics on white flight.

D. Mover Behavior

By far the cleanest study would focus upon neighborhood choices of individual families, stratified by characteristics such as income, life-cycle, and ethnicity. Mover studies, which have tended to be the preserve of sociologists, social psychologists, and demographers have focused upon individual determinants of the likelihood of moving, and have paid little attention to the characteristics of neighborhood of origin or destination. This focus may be justified in addressing the issue of the likelihood of movement, since life-cycle factors may be the overwhelming determinant. Neighborhood or central city decline is less explicable by differentials in gross outmigration than in differentials in immigration, which can only be explained by careful attention to neighborhood characteristics. In other words, whites with families may be just as likely to move from a completely white or 70 percent white neighborhood in a given moment, but they are more likely to move into the former neighborhood than the latter.

The literature on moving undertaken by economists is rather thin; however, a study in progress of metropolitan Wilmington, Delaware by David Segal and the author is suggestive. In choosing among neighborhoods, middle-income families with children seem to be more sensitive to performance measures of school quality and to race than to expenditures per pupil. While the results on different family strata are not complete, preliminary findings suggest that taxes and expenditures have much less influence on shaping residential choice than race.

V. IMPLICATIONS OF DEMOGRAPHIC CHANGE IN THE DECADE AHEAD

If one were to anticipate the problems facing the education sector in 1990, it is unlikely that any of these raised by demographic change would be salient. Most of the problems raised here are problems of transition, to some degree painful, but of transition nonetheless. The decline in the school-age population will have come to an end, and some measure of stability is likely to have been achieved. The growth of the Sunbelt probably will have slowed down as congestion, higher taxes, and living costs dissipate its amenities vis-a-vis the Northeast. Suburbanization will have reached a trickle as forces for revitalization of central cities become increasingly operative: in particular, an increasing proportion of households in the pre-childbearing age, who care little for the quality of local schools, find the amenities of the central city attractive at the right price. The school desegregation issue will probably have worked itself out, one way or another. Indeed, the recent Dayton decision may prove to be the landmark case. Blacks will probably enter the older, inner suburbs as the size of the black middle class increases and as young middle-class white households bid land away from

the poor, black and white, in those cities favored by natural amenities.

The intervening years will have been of considerable turmoil, but many lessons will have been learned. Growing school systems in the Sun-belt will probably pay more attention to reducing overhead costs in the event of decline. They will probably fully fund their pension systems as quickly as possible, rely on leasing rather than school construction, and develop severance-pay schedules that will facilitate voluntary lay-offs in the event of decline.

Declining school systems will face two options: aggressive product differentiation or austere cutbacks. Declining systems may emulate baby-food companies in the current "baby bust" by seeking new markets. These might include mid-career schooling for women returning to the labor force after years of child rearing, day care, or cultural courses of community interest. Broadening the range of services, and hence the constituency supporting public schooling, will require a different form of educational leadership and entrepreneurship. Whereas the old educational services were supported out of tax revenue, the new services will have to be sold for a fee in competition with all the other goods and services vying for a consumer dollar.

Systems which are unable to follow the product differentiation route, perhaps from disinterest of the electorate or lack of entrepreneurship on the part of the educators, will inevitably face the issue of school closings and associated reassignment of teachers. This process will be a source of persistent anxiety to parents, teachers, and other taxpayers.

What is the role of the Federal agencies in weathering the transition? Declining school systems will be in need of considerable technical assistance in undertaking market research if the product differentiation strategy is pursued or in labor relations if the austerity approach is pursued.

In either case, assistance will be required in converting old buildings to new uses, in attempting to manage the cash-flow problem of pensions, and in attempting to find mechanisms for accelerating retirement. Undoubtedly private educational management consulting firms will attempt to bridge the gap, but the Federal agencies, in particular the National Institute of Education, are in a unique position to facilitate information exchange. Even growing areas would benefit from developing fully funded pension systems and new leasing arrangements for school buildings.

Probably the worst option the Federal government could pursue would be to provide compensatory grants for school systems suffering high costs as a result of decline. While many states have aid formulas which in effect soften the fiscal blow of decline, a massive Federal bail-out would simply reduce the penalties for bad decision-making. The school systems need more, not fewer, incentives to utilize society's resources effectively and efficiently.

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FROM: RUSSELL G. DAVIS & GARY M. LEWIS in "Declining Enrollments: The Challenge of the Coming Decade"

POPULATION OF THE UNITED STATES BY RACE AND AGE IN 1960, 1970, AND 1974
AND PROJECTED TO 1980, 1985, AND 1990¹

Age and Racial Group	Population (In thousands)						Percent Distribution					
	1960	1970	1974	1980	1985	1990	1960	1970	1974	1980	1985	1990
All Races												
Total, All Races and Ages	180,671	204,879	211,909	222,769	234,068	245,075	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	20,341	17,156	16,304	17,259	19,785	20,096	11.3	8.4	7.7	7.7	8.5	8.2
5-13 years	32,965	36,636	34,082	30,246	30,380	34,643	18.2	17.9	16.1	13.6	13.0	14.1
14-17 years	11,219	15,910	16,878	15,753	14,388	12,941	6.2	7.8	8.0	7.1	6.1	5.3
18-24 years	16,128	24,683	26,908	29,441	27,834	25,162	8.9	12.0	12.7	13.2	11.9	10.3
25-34 years	22,919	25,293	29,770	36,157	39,846	41,062	12.7	12.3	14.0	16.2	17.0	16.8
35-54 years	44,799	46,452	46,644	48,342	53,710	61,758	24.8	22.7	22.0	21.7	22.9	25.2
55 years and over	32,300	38,749	41,322	45,570	48,124	49,412	17.9	18.9	19.5	20.5	20.6	20.2
White												
Total, All Ages	160,023	179,491	184,543	192,162	200,548	208,686	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	17,373	14,456	13,576	14,256	16,526	16,790	10.9	8.1	7.4	7.4	8.2	8.0
5-13 years	28,533	31,122	28,662	24,970	24,804	28,495	17.8	17.3	15.5	13.0	12.4	13.7
14-17 years	9,839	13,618	14,317	13,136	11,843	10,430	6.1	7.6	7.8	6.8	5.9	5.0
18-24 years	14,169	21,507	23,146	24,978	23,296	20,727	8.9	12.0	12.5	13.0	11.6	9.9
25-34 years	20,230	22,167	26,058	31,267	33,989	34,633	12.6	12.3	14.1	16.3	16.9	16.6
35-54 years	40,252	41,353	41,253	42,390	46,859	53,550	25.2	23.0	22.4	22.1	23.4	25.7
55 years and over	29,627	35,268	37,528	41,165	43,231	44,063	18.5	19.6	20.3	21.4	21.6	21.1
Black and Other Races												
Total, All Ages	20,648	25,388	27,367	30,606	33,520	36,389	100.0	100.0	100.0	100.0	100.0	100.0
0-4 years	2,969	2,700	2,728	3,003	3,259	3,306	14.4	10.6	10.0	9.8	9.7	9.1
5-13 years	4,432	5,513	5,420	5,276	5,577	6,148	21.5	21.7	19.8	17.2	16.6	16.9
14-17 years	1,380	2,292	2,561	2,617	2,545	2,511	6.7	9.0	9.4	8.6	7.6	6.9
18-24 years	1,959	3,176	3,762	4,463	4,538	4,435	9.5	12.5	13.7	14.6	13.5	12.2
25-34 years	2,688	3,125	3,712	4,890	5,857	6,429	13.0	12.3	13.6	16.0	17.5	17.7
35-54 years	4,547	5,099	5,391	5,953	6,851	8,210	22.0	20.1	19.7	19.5	20.4	22.6
55 years and over	2,673	3,482	3,793	4,405	4,894	5,351	12.9	13.7	13.9	14.4	14.6	14.7

¹Projected population refers to Series 11.

SOURCE: U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 519, Table 1, and *Ibid.*, Series P-25, No. 601, Tables 6 and 8.

FROM: HARRIETT FISHLOW in "Declining Enrollments: The Challenge of the Coming Decade"

Table A-1: Projected enrollments in Grades K-12 in the United States, 1974-90.¹

Grade	Enrollment in Year (in Thousands)																
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
K	2,872	2,727	2,729	2,541	2,406	2,374	2,431	2,516	2,622	2,735	2,846	2,950	3,032	3,066	3,127	3,155	3,172
1	3,527	3,564	3,639	3,649	3,417	3,233	3,179	3,245	3,353	3,490	3,638	3,783	3,922	4,032	4,106	4,161	4,200
2	3,540	3,477	3,512	3,581	3,594	3,376	3,194	3,137	3,197	3,301	3,435	3,579	3,722	3,858	3,967	4,041	4,055
3	3,691	3,579	3,515	3,544	3,614	3,626	3,416	3,233	3,171	3,227	3,330	3,462	3,607	3,751	3,999	3,999	4,074
4	3,798	3,813	3,502	3,436	3,463	3,530	3,546	3,345	3,165	3,102	3,153	3,250	3,379	3,519	3,659	3,793	3,982
5	4,036	3,880	3,897	3,582	3,515	3,542	3,611	3,629	3,423	3,240	3,175	3,226	3,325	3,456	3,599	3,742	3,879
6	4,045	3,968	3,815	3,836	3,525	3,458	3,485	3,550	3,565	3,367	3,189	3,124	3,173	3,269	3,397	3,597	3,577
7	4,332	4,030	3,954	3,803	3,626	3,514	3,447	3,471	3,535	3,552	3,358	3,181	3,115	3,161	3,255	3,381	3,519
8	4,108	4,056	3,995	3,919	3,772	3,598	3,487	3,420	3,444	3,507	3,522	3,330	3,157	3,092	3,136	3,229	3,353
Total, K-8	33,554	32,854	32,353	31,891	30,982	30,251	29,796	29,546	29,475	29,521	29,646	29,885	30,432	31,224	32,135	33,039	33,871
9	4,034	4,057	4,005	3,944	3,870	3,723	3,552	3,442	3,378	3,402	3,466	3,480	3,299	3,117	3,054	3,099	3,191
10	3,184	3,984	3,986	3,933	3,875	3,802	3,657	3,488	3,363	3,320	3,346	3,409	3,420	3,230	3,063	3,003	3,058
11	3,653	3,691	3,852	3,871	3,623	3,569	3,501	3,367	3,211	3,114	3,058	3,083	3,142	3,152	2,974	2,819	2,765
12	3,809	3,695	3,896	3,896	3,716	3,672	3,619	3,552	3,420	3,267	3,167	3,108	3,128	3,183	3,192	3,023	2,670
Total, 9-12	15,320	15,367	15,339	15,244	15,084	14,766	14,329	13,849	13,392	13,103	13,037	13,080	12,979	12,682	12,283	11,944	11,676

¹Estimated on the basis of U.S. Bureau of the Census Series 11 population projections and age-grade ratios from the U.S. Census of 1970.

SOURCES: See sources in Table 2.1.